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2624

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9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/503,481

Applicant(s)

SHIYAMA, HIROTAKE

Examiner

Karl R. Reitz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continuation of Disposition of Claims: Claims pending in the application are 1-
18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96
,98,100,102,104,106,108,110,112,114 and 115.

Continuation of Disposition of Claims: Claims rejected are 1-
18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96
,98,100,102,104,106,108,110,112,114 and 115.

DETAILED ACTION

1. Response has been made of record. Claims 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111 and 113 are cancelled and claims 1-18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114 and 115 are pending.

Response to Arguments

2. Applicant's arguments filed on 29 March 2004 have been fully considered but they are not persuasive.

3. Applicant argues that Saito does not disclose designating a length of a digest and performing automatic editing. However, with respect to automatic editing, Saito's system stores a video it is automatically edited into cuts, the CPU then causes a monitor to display the first frame of each cut, or the user can specify a specific scene or cut within a scene to watch (col. 6 lines 50-55 and col. 7 lines 46-52). With respect to the designated length, Saito has been combined with Becker, who discloses designation means for allowing the user to designate the number of frames to be included in each boundary group; in Becker's system, a summary of the video is provided by showing the frames adjacent to segment (scene) boundaries at a slower rate, while fast forwarding the remaining portions (col. 1 lines 10-14), thus since the user is allowed to designate the number of frames in a boundary group, the user is allowed to designate the length of the summary, since it would be obvious to a person

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of ordinary skill in the art that designating the number of frames to be shown is equivalent to designating a length of time to be shown (since a constant number of frames are shown for any given time interval).

4. Applicant further argues that Saito and Becker do not disclose preparing the digest upon receiving instructions to prepare the digest, however it would be obvious to a person of ordinary skill in the art that it is inherent that preparation is begun only after instructions have been received that indicate that editing should begin. This allows the user to control when editing takes place, eliminates errors that may occur if the device is constantly trying to perform editing even if a video to edit is not available, allows the computer performing editing to perform other tasks since the computer is not busy constantly performing editing whether it is desired or not, allows time for the user to enter the desired length of time or number of frames, allows time for the user to watch the edited digest without the apparatus immediately performing another editing operation, etc.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (5,204,706) in view of Becker (5,758,181).

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7. In accordance with claim 1, Saito discloses a system, with calculating means, for calculating similarities among frames; in Saito's system, the encoder 41, of the boundary sensing section 4, performs this function (col. 3 lines 26-34).

8. Saito further discloses that the system contain determining means, which identifies boundaries in a video, such as a scene, using the result of the calculating means; in Saito's system, the boundary sensor 42, of the boundary sensing section 4, performs this function (col. 3 lines 34-36).

9. Saito further discloses that the system contain dynamic image means for editing and preparing the digest; in Saito's system the video is stored after being automatically edited into cuts, the CPU then causes a monitor to display the first frame of each cut, or the user can specify a specific scene or cut within a scene to watch (col. 6 lines 50-55 and col. 7 lines 46-52).

10. However, Saito does not disclose expressly a designation means for designating the length of a digest.

11. Becker discloses designation means for allowing the user to designate the number of frames to be included in each boundary group; in Becker's system, a summary of the video is provided by showing the frames adjacent to segment (scene) boundaries at a slower rate, while fast forwarding the remaining portions (col. 1 lines 10-14), thus since the user is allowed to designate the number of frames in a boundary group, the user is allowed to designate the length of the summary, since it would be obvious to a person of ordinary skill in the art that designating the number of frames to

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be shown is equivalent to designating a length of time to be shown (since a constant number of frames are shown for any given time interval).

12. Saito and Becker are combinable because they are from the same field of endeavor, namely video summary.

13. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to allow Becker's system to designate a specific length of time to playback to the user, as disclosed by Becker.

14. The motivation for doing so would have been to allow the user to see a little bit of video for each scene, instead of just a still image, thereby allowing the user to more easily identify the specific scene he or she is looking for.

15. In accordance with claim 9, the apparatus of claim 1 teaches the method steps of claim 9. For example, the calculating means of claim 1 performs the operation of the calculating step of claim 9, and the determining means of claim 1 performs the operation of the determining step of claim 9.

16. In accordance with claim 17, claim 17 is a program for implementing the method of claim 9. The steps of the program of claim 17 are performed in the steps of the method of claim 9. Saito discloses using a program to control CPU 1 for implementing his method for controlling his apparatus (col. 2 line 54 – col. 3 line 10).

17. Claims 2-5 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Becker in further view of Hanpachern (4,319,286).

18. In accordance with claims 2 and 3, Saito does not directly disclose detection means and processing means for a blank frame. Hanpachern discloses detection

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means, which detect a blank scene; in Hanpachern's system, integrated circuit U1 is used to detect blank frames (col. 4 lines 23-27). Hanpachern also discloses exception-processing means, in which the frame immediately preceding a blank scene is recorded, and the frame immediately following the blank scene is the next frame to be recorded; in Hanpachern's system, integrated circuit U2 and transistor Q9 perform this function (col. 4 lines 50-63).

19. Saito, Becker and Hanpachern are compatible because they are from the same field of endeavor, namely video summary.

20. Therefore it would have been obvious to one of ordinary skill in the art to add Hanpachern's method of detecting a blank scene, and editing the scene from the digest to Saito's system.

21. The motivation for doing so would have been to eliminate frames with no relevant information from consideration and therefore to speed up processing and decrease the time the user needs to find the information he or she is looking for.

22. In accordance with claim 10, claim 10 is a method, which corresponds to the system of claim 2. The functions carried out by the detecting and exception processing means of claim 2 perform the operations of the detecting and performing exception processing steps of claim 10, respectively. Further, since Saito refers to both a system and a method, claim 10 is rejected for the same reasons claim 2 was rejected above (col. 7 line 62 and col. 9 line 4).

23. In accordance with claim 11, claim 11 is a method, which corresponds to the system of claim 3. The functions carried out by the exception processing means of

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claim 3 perform the operations of the performing exception processing step of claim 11.

Further, since Saito refers to both a system and a method, claim 11 is rejected for the same reasons claim 3 was rejected above (col. 7 line 62 and col. 9 line 4).

24. In accordance with claims 4 and 5, Becker discloses a system that is used for accelerated presentation of segmented data (abstract lines 1-2). Becker's system takes data that is segmented with known boundaries (abstract lines 3-5). The user can be prompted for a desired length of time by specifying a number of frames (col. 6 lines 50-54). Based on the input from the user, Becker's system displays a number of frames from each scene in a video (abstract lines 5-10). When a scene has fewer frames than the number of frames that the user has specified to be shown (the length of a scene is less than the length specified by the user), Becker discloses preventing overlap by monitoring the position of each frame to be displayed within each scene; Becker displays frames of each scene at specified intervals, if the next frame to be displayed falls outside the current scene, instead of displaying that frame, Becker's system proceeds to the beginning of the next scene thus preventing the display of overlapping scene frames by displaying a shorter length of the first scene and then the full, specified length of the second scene (col. 6 line 50 – col. 7 line 35).

25. Therefore, it would have been obvious to one of ordinary skill in the art to merge the scene change frame of the shorter scene with the scene change frame of the longer scene, thereby treating the scenes as one scene.

26. The motivation for doing so would be exclude overlap in the presentation of a video summary, which would occur since the short scene is shorter than the specified

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duration to be played back. It would be obvious to exclude overlap and redundancy, as the intent of a summary is contradicted by the presence of overlap or redundancy.

27. In accordance with claims 12 and 13, claims 12 and 13 are methods, which correspond to the system of claims 4 and 5. Since Saito refers to both a system and a method, claims 12 and 13 are rejected for the same reasons claim 4 and 5 were rejected above (col. 7 line 62 and col. 9 line 4).

28. Claims 6-8 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Saito in view of Becker in further view of Hanpachern in further view of Edgar (5,537,530).

29. In accordance with claim 6, Saito discloses finding all the scene change frames of a dynamic image (col. 7 lines 34-38). Saito further discloses merging the frames into a digest of the first frame of each scene or a tree structure that allows the user to quickly view each scene (col. 6 lines 50-55 and col. 7 lines 46-52).

30. Neither Saito nor Hanpachern nor Becker discloses expressly merging frames into a digest beginning with scenes whose scene-change frame has a low degree of similarity to some preceding frames.

31. Edgar discloses calculating the "change" between a selected image and every other image in a specific cut (col. 12 lines 5-15). He uses this difference to determine what individual frame best represents each scene, which is then displayed (col. 4 lines 15-30). Thus Edgar discloses calculating degrees of similarity among frames and using the data calculated to prepare a digest of one frame.

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32. Edgar is combinable Saito, Hanpachern and Becker because they are from the same field of endeavor, namely video summary.

33. Therefore, it would have been obvious to one of ordinary skill in the art to use methods presented in Edgar for calculating degrees of similarity among frames to order the presentation of the digest of Saito's system.

34. The motivation for ordering a digest in this way is given by Edgar who calculates the degrees of similarity in order to present a digest with the most relevant frames (col. 12 lines 5-15).

35. In accordance with claim 7, Becker further discloses creating a digest of desired length by allowing the step size between frames to be increased (col. 6 lines 61-65).

Thus, Becker's routine will adjust step size until it reaches a predetermined value, which is determined based on the user's input for the number of frames to be included in each scene; so, Becker discloses adjusting the step size to increase the duration of each scene (if the duration is originally below the threshold specified value) to be in accordance with the user's input.

36. Saito, Hanpachern, Becker and Edgar are combinable because they are from the same field of endeavor, namely video summary.

37. Therefore, it would have been obvious to one of ordinary skill in the art to use the methods described in Becker to increase the length of the digest to be in accordance with the user's specification for length (number of frames).

38. The motivation for doing so would have been to present a video display for a length of time according to the user's desire.

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39. In accordance with claim 8, as in the description in this section for claims 2 and 3, Hanpachern discloses the detection of blank scenes and editing them out of the digest.

40. For the same reasons described above in the sections on claims 2 and 3, it would have been obvious to combine Saito, Hanpachern, Becker and Edgar to detect blank scenes and edit them from the digest.

41. In accordance with claims 14, 15 and 16, claims 14, 15 and 16 are methods, which correspond to the system of claims 6, 7 and 8. Since Saito refers to both a system and a method, claims 14, 15 and 16 are rejected for the same reasons claim 6, 7 and 8 were rejected above (col. 7 line 62 and col. 9 line 4).

42. Claims 18, 50, 82 and 114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Edgar.

43. In accordance with claim 18, Saito discloses a system, with calculating means, which compare similarities among frames; in Saito's system, the encoder 41, of the boundary sensing section 4, performs this function (col. 3 lines 26-34).

44. Saito further discloses that the system contain determining means, which identifies boundaries in a video, such as a scene, using the result of the calculating means; in Saito's system, the boundary sensor 42, of the boundary sensing section 4, performs this function (col. 3 lines 34-36).

45. Saito further discloses that the system contain dynamic image means for editing and preparing the digest; in Saito's system the video is stored after being segmented into cuts, the CPU then causes a monitor to display the first frame of each cut, or the

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user can specify a specific scene or cut within a scene to watch (col. 6 lines 50-55 and col. 7 lines 46-52).

46. Saito does not disclose expressly merging frames into a digest by based on a low degree of similarity between the frame and some preceding frames.

47. Edgar discloses calculating the “change” between a selected image and every other image in a specific cut (col. 12 lines 5-15). He uses this difference to determine what individual frame best represents each scene, which is then displayed (col. 4 lines 15-30). Thus Edgar discloses calculating degrees of similarity among frames and using the data calculated to prepare a digest of one frame per scene.

48. Saito and Edgar are combinable because they are from the same field of endeavor, namely video summary.

49. Therefore, it would have been obvious to one of ordinary skill in the art to build the digest based on the degree of similarity between frames as calculated by Edgar.

50. The motivation for doing so would have been to allow the user to create a digest in a way that allows the user to see frames that are less representative of each scene, if for example they are looking for something they know to be unusual occurrence, or if they are searching a long scene for a specific unusual instance.

51. Although neither Saito or Edgar expressly disclose that the editing takes place when instructions are received to do the editing, it would be obvious to a person of ordinary skill in the art that it is inherent that preparation is begun only after instructions have been received that indicate that editing should begin. This allows the user to control when editing takes places, eliminates errors that may occur if the device is

constantly trying to perform editing even if a video to edit is not available, allows the computer performing editing to perform other tasks since the computer is not busy constantly performing editing whether it is desired or not, allows time for the user to enter the desired length of time or number of frames, allows time for the user to watch the edited digest without the apparatus immediately performing another editing operation, etc.

52. In accordance with claim 50, Saito discloses allowing the user to save (store in a magnetic disk) or immediately view the created dynamic image (col. 7 lines 45-50).

53. In accordance with claim 82, claim 82 is a method, which corresponds to the system of claim 18. The functions carried out by the calculating, determining, and dynamic image means of claims 18 perform the operations off the calculating, determining, and automatic editing steps of claims 82, respectively. Further, since Saito discloses both a system and a method, claims 82 are rejected for the same reasons claims 18 were rejected above (col. 7 line 62 and col. 9 line 4).

54. In accordance with claim 114, claim 114 specifies a recording medium recording program code for executing the method of claim 82. Since Saito further discloses using a program to implement his method, claim 114 is rejected for the same reason claim 82 was rejected above (col. 2 line 54 – col. 3 line 10).

55. Claims 22, 26, 54, 58, 86 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Edgar in further view of Hanpachern.

56. In accordance with claims 22 and 26, Saito does not directly disclose detection means and processing means for a blank frame. Hanpachern discloses detection

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means, which detect a blank scene; in Hanpachern's system, integrated circuit U1 is used to detect blank frames (col. 4 lines 23-27). Hanpachern also discloses exception-processing means, in which the frame immediately preceding a blank scene is recorded, and the frame immediately following the blank scene is the next frame to be recorded; in Hanpachern's system, integrated circuit U2 and transistor Q9 perform this function (col. 4 lines 50-63).

57. Saito, Edgar and Hanpachern are compatible because they are from the same field of endeavor, namely video summary.

58. Therefore it would have been obvious to one of ordinary skill in the art to add Hanpachern's method of detecting a blank scene, and editing the scene from the digest to Saito and Edgar's system.

59. The motivation for doing so would have been to eliminate frames with no relevant information from consideration and therefore to speed up processing and decrease the time the user needs to find the information he or she is looking for.

60. In accordance with claims 54 and 58, Saito discloses allowing the user to save (store in a magnetic disk) or immediately view the created dynamic image (col. 7 lines 45-50).

61. In accordance with claims 86 and 90, claims 86 and 90 are methods, which correspond to the system of claims 22 and 26, respectively. The functions carried out by the exception processing means of claims 22 and 26 perform the operations of the exception processing steps of claims 86 and 90, respectively. Further, since Saito refers

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to both a system and a method, claims 86 and 90 are rejected for the same reasons claims 22 and 26 were rejected above (col. 7 line 62 and col. 9 line 4).

62. Claims 30, 34, 38, 42, 46, 62, 66, 70, 74, 78, 94, 98, 102, 106, and 110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Edgar in further view of Hanpachern in further view of Becker.

63. In accordance with claims 30 and 34, neither Saito nor Edgar nor Hanpachern discloses that when displaying time differences between scene-change-frames that are smaller than a specified duration, frames from the beginning of the first scene through the specified duration from the beginning of the second frame are treated as the result of merging of the scene-change-frames of the two scenes. Resulting in a shorter length of the first scene being shown and then the full, specified length of the second scene being shown.

64. Becker discloses a system that is used for accelerated presentation of segmented data (abstract lines 1-2). Becker's system takes data that is segmented with known boundaries (abstract lines 3-5). The user can be prompted for a desired length of time by specifying a number of frames (col. 6 lines 50-54). Based on the input from the user, Becker's system displays a number of frames from each scene in a video (abstract lines 5-10). When a scene has fewer frames than the number of frames that the user has specified to be shown (the length of a scene is less than the length specified by the user), Becker discloses preventing overlap by monitoring the position of each frame to be displayed within each scene; Becker displays frames of each scene at specified intervals, if the next frame to be displayed falls outside the current scene,

instead of displaying that frame, Becker's system proceeds to the beginning of the next scene thus preventing the display of overlapping scene frames by displaying a shorter length of the first scene and then the full, specified length of the second scene (col. 6 line 50 – col. 7 line 35).

65. Saito, Edgar, Hanpachern and Becker are combinable because they are from the same field of endeavor, namely video summary.

66. Therefore, it would have been obvious to one of ordinary skill in the art to merge the scene change frame of the shorter scene with the scene change frame of the longer scene, thereby treating the scenes as one scene.

67. The motivation for doing so would be exclude overlap in the presentation of a video summary, which would occur since the short scene is shorter than the specified duration to be played back. It would be obvious to exclude overlap and redundancy, as the intent of a summary is contradicted by the presence of overlap or redundancy.

68. In accordance with claim 38, Saito discloses finding all the scene change frames of a dynamic image (col. 7 lines 34-38). Saito further discloses merging the frames into a digest of the first frame of each scene or a tree structure that allows the user to quickly view each scene (col. 6 lines 50-55 and col. 7 lines 46-52).

69. Neither Saito nor Hanpachern nor Becker discloses expressly merging frames into a digest beginning with scenes whose scene-change frame has a low degree of similarity to some preceding frames.

70. Edgar discloses calculating the "change" between a selected image and every other image in a specific cut (col. 12 lines 5-15). He uses this difference to determine

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what individual frame best represents each scene, which is then displayed (col. 4 lines 15-30). Thus Edgar discloses calculating degrees of similarity among frames and using the data calculated to prepare a digest of one frame.

71. Edgar is combinable Saito, Hanpachern and Becker because they are from the same field of endeavor, namely video summary.

72. Therefore, it would have been obvious to one of ordinary skill in the art to use methods presented in Edgar for calculating degrees of similarity among frames to order the presentation of the digest of Saito's system.

73. The motivation for ordering a digest in this way is given by Edgar who calculates the degrees of similarity in order to present a digest with the most relevant frames (col. 12 lines 5-15).

74. In accordance with claim 42, Becker further discloses creating a digest of desired length by allowing the step size between frames to be increased (col. 6 lines 61-65).

Thus, Becker's routine will adjust step size until it reaches a predetermined value, which is determined based on the user's input for the number of frames to be included in each scene; so, Becker discloses adjusting the step size to increase the duration of each scene, if the duration is originally below the threshold specified value, to be in accordance with the user's input.

75. Saito, Hanpachern, Becker and Edgar are combinable because they are from the same field of endeavor, namely video summary.

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76. Therefore, it would have been obvious to one of ordinary skill in the art to use the methods described in Becker to increase the length of the digest to be in accordance with the user's specification for length (number of frames).

77. The motivation for doing so would have been to present a video display for a length of time according to the user's desire.

78. In accordance with claim 46, as in the description in this section for claims 26 and 30, Hanpachern discloses the detection of blank scenes and editing them out of the digest.

79. For the same reasons described above in the sections on claims 26, 27, 30 and 31, it would have been obvious to combine Saito, Hanpachern, Becker and Edgar to detect blank scenes and edit them from the digest.

80. In accordance with claims 62, 66, 70, 74 and 78, Saito discloses allowing the user to save (store in a magnetic disk) or immediately view the created dynamic image (col. 7 lines 45-50).

81. In accordance with claims 94, 98, 102, 106, and 110, claims 94, 98, 102, 106, and 110 are methods, which correspond to the systems of claims 30, 34, 38, 42, and 46. Since Saito refers to both a system and a method, claims 94, 98, 102, 106, and 110 are rejected for the same reasons claims 30, 34, 38, 42, and 46 were rejected above (col. 7 line 62 and col. 9 line 4).

82. Claims 20, 52, 84 and 115 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Edgar.

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83. In accordance with claim 20, Saito discloses a system, with calculating means, which compare similarities among frames; in Saito's system, the encoder 41, of the boundary sensing section 4, performs this function (col. 3 lines 26-34).

84. Saito further discloses that the system contain determining means, which identifies boundaries in a video, such as a scene, using the result of the calculating means; in Saito's system, the boundary sensor 42, of the boundary sensing section 4, performs this function (col. 3 lines 34-36).

85. Saito further discloses that the system contain dynamic image means for editing and preparing the digest; in Saito's system the video is stored after being segmented into cuts, the CPU then causes a monitor to display the first frame of each cut, or the user can specify a specific scene or cut within a scene to watch (col. 6 lines 50-55 and col. 7 lines 46-52).

86. Saito does not disclose expressly merging frames into a digest by based on a high degree of similarity between the frame and some preceding frames.

87. Edgar discloses calculating the "change" between a selected image and every other image in a specific cut (col. 12 lines 5-15). He uses this difference to determine what individual frame best represents each scene, which is then displayed (col. 4 lines 15-30). Thus Edgar discloses calculating degrees of similarity among frames and using the data calculated to prepare a digest of one frame.

88. Saito and Edgar are combinable because they are from the same field of endeavor, namely video summary.

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89. Therefore, it would have been obvious to one of ordinary skill in the art to build the digest based on the degree of similarity between frames as calculated by Edgar.

90. The motivation for doing so would have been to allow the user to view a summary of the most representative frames within a scene.

91. Although neither Saito or Edgar expressly disclose that the editing takes place when instructions are received to do the editing, it would be obvious to a person of ordinary skill in the art that it is inherent that preparation is begun only after instructions have been received that indicate that editing should begin. This allows the user to control when editing takes places, eliminates errors that may occur if the device is constantly trying to perform editing even if a video to edit is not available, allows the computer performing editing to perform other tasks since the computer is not busy constantly performing editing whether it is desired or not, allows time for the user to enter the desired length of time or number of frames, allows time for the user to watch the edited digest without the apparatus immediately performing another editing operation, etc.

92. In accordance with claim 52, Saito discloses allowing the user to save (store in a magnetic disk) or immediately view the created dynamic image (col. 7 lines 45-50).

93. In accordance with claim 84, claim 84 is a method, which corresponds to the system of claim 20. The functions carried out by the calculating, determining, and dynamic image means of claims 20 perform the operations of the calculating, determining, and automatic editing steps of claims 84, respectively. Further, since Saito

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discloses both a system and a method, claims 84 are rejected for the same reasons claims 20 were rejected above (col. 7 line 62 and col. 9 line 4).

94. In accordance with claim 115, claim 115 specifies a recording medium recording program code for executing the method of claim 84. Since Saito further discloses using a program to implement his method, claim 115 is rejected for the same reason claim 84 was rejected above (col. 2 line 54 – col. 3 line 10).

95. Claims 24, 28, 56, 60, 88 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Edgar in further view of Hanpachern.

96. In accordance with claims 24 and 28, Saito does not directly disclose detection means and processing means for a blank frame. Hanpachern discloses detection means, which detect a blank scene; in Hanpachern's system, integrated circuit U1 is used to detect blank frames (col. 4 lines 23-27). Hanpachern also discloses exception-processing means, in which the frame immediately preceding a blank scene is recorded, and the frame immediately following the blank scene is the next frame to be recorded; in Hanpachern's system, integrated circuit U2 and transistor Q9 perform this function (col. 4 lines 50-63).

97. Saito, Edgar and Hanpachern are compatible because they are from the same field of endeavor, namely video summary.

98. Therefore it would have been obvious to one of ordinary skill in the art to add Hanpachern's method of detecting a blank scene, and editing the scene from the digest to Saito and Edgar's system.

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99. The motivation for doing so would have been to eliminate frames with no relevant information from consideration and therefore to speed up processing and decrease the time the user needs to find the information he or she is looking for.

100. In accordance with claims 56 and 60, Saito discloses allowing the user to save (store in a magnetic disk) or immediately view the created dynamic image (col. 7 lines 45-50).

101. In accordance with claims 88 and 92, claims 88 and 92 are methods, which correspond to the system of claims 24 and 28, respectively. The functions carried out by the exception processing means of claims 24 and 28 perform the operations of the exception processing steps of claims 88 and 92, respectively. Further, since Saito refers to both a system and a method, claims 88 and 92 are rejected for the same reasons claims 24 and 28 were rejected above (col. 7 line 62 and col. 9 line 4).

102. Claims 32, 36, 40, 44, 48, 64, 68, 72, 76, 80, 96, 100, 104, 108 and 112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Edgar in further view of Hanpachern in further view of Becker.

103. In accordance with claims 32 and 36, neither Saito nor Edgar nor Hanpachern discloses that when displaying time differences between scene-change-frames that are smaller than a specified duration, frames from the beginning of the first scene through the specified duration from the beginning of the second frame are treated as the result of merging of the scene-change-frames of the two scenes. Resulting in a shorter length of the first scene being shown and then the full, specified length of the second scene being shown.

104. Becker discloses a system that is used for accelerated presentation of segmented data (abstract lines 1-2). Becker's system takes data that is segmented with known boundaries (abstract lines 3-5). The user can be prompted for a desired length of time by specifying a number of frames (col. 6 lines 50-54). Based on the input from the user, Becker's system displays a number of frames from each scene in a video (abstract lines 5-10). When a scene has fewer frames than the number of frames that the user has specified to be shown (the length of a scene is less than the length specified by the user), Becker discloses preventing overlap by monitoring the position of each frame to be displayed within each scene; Becker displays frames of each scene at specified intervals, if the next frame to be displayed falls outside the current scene, instead of displaying that frame, Becker's system proceeds to the beginning of the next scene thus preventing the display of overlapping scene frames by displaying a shorter length of the first scene and then the full, specified length of the second scene (col. 6 line 50 – col. 7 line 35).

105. Saito, Edgar, Hanpachern and Becker are combinable because they are from the same field of endeavor, namely video summary.

106. Therefore, it would have been obvious to one of ordinary skill in the art to merge the scene change frame of the shorter scene with the scene change frame of the longer scene, thereby treating the scenes as one scene.

107. The motivation for doing so would be exclude overlap in the presentation of a video summary, which would occur since the short scene is shorter than the specified

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duration to be played back. It would be obvious to exclude overlap and redundancy, as the intent of a summary is contradicted by the presence of overlap or redundancy.

108. In accordance with claim 40, Saito discloses finding all the scene change frames of a dynamic image (col. 7 lines 34-38). Saito further discloses merging the frames into a digest of the first frame of each scene or a tree structure that allows the user to quickly view each scene (col. 6 lines 50-55 and col. 7 lines 46-52).

109. Neither Saito nor Hanpachern nor Becker discloses expressly merging frames into a digest beginning with scenes whose scene-change frame has a low degree of similarity to some preceding frames.

110. Edgar discloses calculating the "change" between a selected image and every other image in a specific cut (col. 12 lines 5-15). He uses this difference to determine what individual frame best represents each scene, which is then displayed (col. 4 lines 15-30). Thus Edgar discloses calculating degrees of similarity among frames and using the data calculated to prepare a digest of one frame.

111. Edgar is combinable with Saito, Hanpachern and Becker because they are from the same field of endeavor, namely video summary.

112. Therefore, it would have been obvious to one of ordinary skill in the art to use methods presented in Edgar for calculating degrees of similarity among frames to order the presentation of the digest of Saito's system.

113. The motivation for ordering a digest in this way is given by Edgar who calculates the degrees of similarity in order to present a digest with the most relevant frames (col. 12 lines 5-15).

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114. In accordance with claims 44, Becker further discloses creating a digest of desired length by allowing the step size between frames to be increased (col. 6 lines 61-65). Thus, Becker's routine will adjust step size until it reaches a predetermined value, which is determined based on the user's input for the number of frames to be included in each scene; so, Becker discloses adjusting the step size to increase the duration of each scene, if the duration is originally below the threshold specified value, to be in accordance with the user's input.

115. Saito, Hanpachern, Becker and Edgar are combinable because they are from the same field of endeavor, namely video summary.

116. Therefore, it would have been obvious to one of ordinary skill in the art to use the methods described in Becker to increase the length of the digest to be in accordance with the user's specification for length (number of frames).

117. The motivation for doing so would have been to present a video display for a length of time according to the user's desire.

118. In accordance with claim 48, as in the description in this section for claims 28 and 32, Hanpachern discloses the detection of blank scenes and editing them out of the digest.

119. For the same reasons described above in the sections on claims 28 and 32, it would have been obvious to combine Saito, Hanpachern, Becker and Edgar to detect blank scenes and edit them from the digest.

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120. In accordance with claims 64, 68, 72, 76 and 80, Saito discloses allowing the user to save (store in a magnetic disk) or immediately view the created dynamic image (col. 7 lines 45-50).

121. In accordance with claims 96, 100, 104, 108 and 112, claims 96, 100, 104, 108 and 112 are methods, which correspond to the system of claims 32, 36, 40, 44 and 49. Since Saito refers to both a system and a method, claims 96, 100, 104, 108 and 112 are rejected for the same reasons claims 32, 36, 40, 44 and 48 were rejected above (col. 7 line 62 and col. 9 line 4).

Conclusion

122. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

123. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

124. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl R. Reitz whose telephone number is (703) 305-8696. The examiner can normally be reached on Monday-Friday 8:00-4:30.

125. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 305-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

126. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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